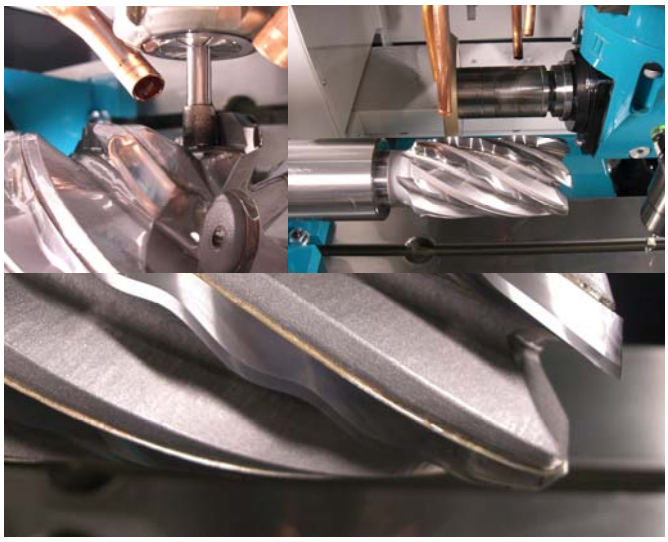
Sinusedge-Endmill Ø55 Z6

A1-300



Sinusedge grinding of flutes can be done in two different ways: one is using a sufficiently small fingerwheel, whose periphery grinds the rake of the flute. The other grinds in conventional way with a 12V9 of diameter 50 to 75 mm. Advantage of the first type: large amplitudes of cutting edge and constant hook angles can be achieved. Advantage of the second type: no additonal high speed spindle is used. The tool shown here uses the first type. The O.D. has been ground using standard wheels. To garantee a perfect O.D. flatness an additional probing of the sinusoidal cutting edge can be executed after having ground the flute.

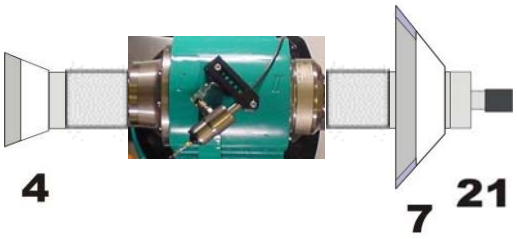
1. Cycletime for Production

Tool specifications Diameter 55 mm, Cutting edges 6, Length of cutting edge 110 mm, Helix angle 35 deg Material HM							
Operations	Probe	Flute 1	Gashing	O.D.2	O.D.1	End 2	End 1
Feed [mm/Min]	2000	17	100	200	300	70	120
Power [kW]		4	2	1	1	1	1
Cutting feed [m/s]		18	22	24	24	24	24
Used wheels		21	7	4	4	4	4
Grinding time [s]	73	3043	176	574	391	193	116
Total cycle time	76 Min 4						

The mentioned cycle times are indicative. The material to be ground, different grinding wheels or other coolants can influence the cycle times considerably.

2. Used Grinding Wheels

21 Ø8 1A1 D64
7 Ø125 12V9 D64
4 Ø75 11V9 D64



3. Machine and Software Requirements

Machines:	5 axes CNC grinders : CORVUS GDS, GEMINI DMR, additional high speed spindle
Control:	Fanuc 31i
Coolant:	Synthetic Oil, pressure 6 - 7 bar
Software:	Quinto 5

responsible engineer: OP, 1.3.07

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